What is claimed is:

1. A YC separation apparatus for use with a video signal, comprising:

a filter unit for providing any of:

a) comb filtering;

5 b) band pass filtering; and

c) a combination of comb filtering and band pass filtering;

to said video signal based on which of a plurality of correlation level ranges said video signal is situated;

a subdetector for detecting whether said video signal is above a high

10 correlation level; and

a detector for detecting in which of said plurality of correlation level ranges said video signal is situated, ones of said ranges shifted responsive to said subdetector detecting that said video signal is above said high correlation level.

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2. A method of performing YC separation of a video signal, said method comprising the steps of:

providing any of:

a) comb filtering;

20 b) band pass filtering; and

c) a combination of comb filtering and band pass filtering;

to said video signal based on which of a plurality of correlation level ranges said video signal is situated;

detecting whether said video signal is above a high correlation level;

25 detecting in which of said plurality of correlation level ranges said video signal is situated, and

shifting ones of said ranges responsive to said subdetector detecting that

said video signal is above said high correlation level.

3. The apparatus of claim 1, wherein said ranges are shifted upward responsive to said subdetector detecting that said video signal is above said high

5   correlation level.

4. The method of claim 2, wherein said ranges are shifted upward responsive to said subdetector detecting that said video signal is above said high correlation level.

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5. A three-line correlation detecting apparatus controlling an YC separating system of an YC separator, the apparatus comprising:

(a) a first band-pass filter accepting a current line signal as an input, and outputting a first chrominance signal;

15   (b) a second band-pass filter accepting a signal generated by delaying the current line signal by one horizontal scanning period or two horizontal scanning periods, and outputting a second chrominance signal;

(c) a third band-pass filter accepting a signal generated by delaying the current line signal by two or four horizontal scanning periods, and

20   outputting a third chrominance signal;

(d) a first absolute-value calculator determining an absolute value of a result calculated by adding an output signal from the first band-pass filter to an output signal from the second band-pass filter, and outputting the determined value;

25   (e) a second absolute-value calculator determining an absolute value of a result calculated by adding an output signal from the second band-pass filter to an output signal from the third band-pass filter, and outputting the

determined value;

  (f) a first maximum-value detector accepting output signals from the first and the second absolute-value calculators, and outputting a larger value as a maximum value;

  (g) a first minimum-value detector accepting output signals from the first and the second absolute-value calculators, and outputting a smaller value as a minimum value;

  (h) a sub-correlation detector accepting i) a first signal of the current line, ii) a second signal generated by delaying the current line signal by one horizontal scanning period or two horizontal scanning periods, iii) a third signal generated by delaying the current line signal by two or four horizontal scanning periods, determining a between-lines correlation signal from differentials between the first signal and the second signal, and between the second signal and the third signal, outputting a result by comparing the between-lines correlation signal with a predetermined reference value; and

  (i) a first selector accepting outputs from the first maximum-value calculator and the first minimum-value calculator, and selecting an output signal for controlling the YC separating system according to judgment of the sub-correlation detector.

6. The three-line correlation detecting apparatus of claim 5, the apparatus further including a predetermined number "n" of comparators (where predetermined "n" takes on any one of natural numbers), in which an output signal fed from the first selector is compared with the predetermined number "n" of respective different reference values, if the output signal is larger than the respective reference values, the comparators output logic "1", while if the output signals is smaller that the respective reference values, the comparators output

logic "0", so that the YC separating system is controlled by outputs from the number "n" of comparators.

7. The three-line correlation detecting apparatus of claim 6, the apparatus further including:

(j) a first low-pass filter accepting the current line signal as an input, and passing through low-band components of the accepted signal;

(k) a second low-pass filter accepting a signal generated by delaying the current line signal by one horizontal scanning period or two horizontal scanning periods, and passing through low-band components of the accepted signal;

(l) a third low-pass filter accepting a signal generated by delaying the current line signal by two or four horizontal scanning periods, and passing through low-band components of the accepted signal;

(m) a third absolute-value calculator determining an absolute value of a result calculated by subtracting an output signal of the second low-pass filter from an output signal of the first low-pass filter, and outputting the determined value;

(n) a fourth absolute-value calculator determining an absolute value of a result calculated by subtracting an output signal of the third low-pass filter from an output signal of the second low-pass filter, and outputting the determined value;

(o) a second maximum-value detector accepting output signals from the third and the fourth absolute-value calculators, and outputting a larger value as a maximum value;

(p) a second minimum-value detector accepting output signals from the third and the fourth absolute-value calculators, and outputting a smaller

value as a minimum value;

(q) a second selector accepting outputs from the second maximum-value calculator and the second minimum-value calculator, and selecting an output signal for controlling the YC separating system according to judgment of

5 the sub-correlation detector;

(r) another predetermined number "n" of comparators (where predetermined "n" takes on any one of natural numbers) outputting "n"-bit signals for the predetermined number "n" of reference values, in which an output signal fed from the second selector is compared with predetermined

10 number "n" of another respective different reference values, if the output signal is larger than the another respective reference values, the comparators output logic "1", while if the output signal is smaller than the respective another reference values, the comparators output logic "0"; and

(s) a logic processor accepting outputs from the predetermined

15 number "n" of comparators and from the another predetermined number "n" of comparators, outputting a result after performing a logic operation,

wherein the result obtained from the logic processor controls the YC separating system.

20   8. The three-line correlation detecting apparatus of claim 5, the sub-correlation detector including:

another first band-pass filter accepting the current line signal as an input, and passing through components of a chrominance signal band in the accepted signal;

25   another second band-pass filter accepting a signal generated by delaying the current line signal by one horizontal scanning period or two horizontal scanning periods, and passing through components of the

chrominance signal band in the accepted signal;

another third band-pass filter accepting a signal generated by delaying the current line signal by two or four horizontal scanning periods, and passing through components of a chrominance signal band in the accepted

5   signal;

another first absolute-value calculator determining an absolute value of a result calculated by adding an output from the first band-pass filter to an output signal from the second band-pass filter, and outputting the determined value;

10   another second absolute-value calculator determining an absolute value of a result calculated by adding an output from the second band-pass filter to an output signal from the third band-pass filter, and outputting the determined value;

another minimum-value detector accepting output signals from the

15   first and the second absolute-value calculators, and outputting a smaller value as a minimum value;

a comparator, in which an output signal fed from the another minimum-value detector is compared with another predetermined reference value, if the output signal is smaller than the another predetermined reference

20   value, the comparator outputs logic "1", while if the output signal is larger that the another predetermined reference value, the comparator outputs logic "0".

9. The three-line correlation detecting apparatus of claim 7, the sub-correlation detector comprising:

25   the first band-pass filter;

the second band-pass filter;

the third band-pass filter;

the first absolute-value calculator;

the second absolute-value calculator;

the second minimum-value detector; and

another comparator, in which an output signal fed from the second

5 minimum-value detector is compared with further predetermined reference

value, if the output signal is smaller than the further predetermined reference

value, the comparator outputs logic "1", while if the output signal is larger than

the further predetermined reference value, the comparator outputs logic "0".

10   10. The three-line correlation detecting apparatus of claim 5, the

apparatus further comprising:

an exclusive NOR circuit accepting input signals into the first

absolute-value calculator and into the second absolute-value calculator;

an OR circuit accepting output signals from the exclusive NOR circuit

15 and from the sub-correlation detector; and

an AND circuit accepting an output signal from the first selector, i) if

an output from the OR circuit is logic "1", the AND circuit outputs the output

signal from the first selector, and ii) if the output from the OR circuit is logic "0",

the AND circuit outputs a predetermined reference value.

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11. The three-line correlation detecting apparatus of claim 7, the

apparatus further comprising:

another exclusive NOR circuit accepting input signals into the third

absolute-value calculator and into the fourth absolute-value calculator;

25   another OR circuit accepting output signals from the another

exclusive NOR circuit and from the sub-correlation detector; and

another AND circuit accepting an output signal from the second

selector, i) if an output from the another OR circuit is logic "1", the another AND circuit outputs the output signal from the second selector, and ii) if the output from the another OR circuit is logic "0", the another AND circuit outputs a predetermined reference value.

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12. A three-line correlation detecting method controlling an YC separator system of a YC separator, the method comprising the steps of:

(a) obtaining a first chrominance signal by filtering a current line signal;

10　　　　(b) obtaining a second chrominance signal by filtering a signal generated by delaying the current line signal by one horizontal scanning period or two horizontal scanning periods;

(c) obtaining a third chrominance signal by filtering a signal generated by delaying the current line signal by two or four horizontal scanning

15　periods;

(d) determining an absolute value of a result calculated by adding the first chrominance signal to the second chrominance signal;

(e) determining an absolute value of a result calculated by adding the second chrominance signal to the third chrominance signal;

20　　　　(f) determining a larger value as a maximum value by comparing the absolute value obtained in step (d) with the absolute value obtained in step (e);

(g) determining a smaller value as a minimum value by comparing the absolute value obtained in step (d) with the absolute value obtained in step (e);

25　　　　(h) accepting a first signal of the current line signal, a second signal generated by delaying one horizontal scanning period or two horizontal scanning periods, and a third signal generated by delaying two or four

horizontal scanning periods, detecting a between-lines correlation signal from differentials between the first signal and the second signal, between the second signal and the third signal, and then determining a result by comparing the between-lines correlation signal with a predetermined reference value; and

5   (i) determining an output signal by selecting any one of the maximum value obtained in step (f) and the minimum value obtained in step (g) according to the result determined in step (h) to control the YC separating system.

         13. The three-line correlation detecting method of claim 12 wherein the

10 output signal determined in step (i) is compared with the predetermined number "n" of respective different reference values (where predetermined "n" takes on any one of natural numbers), if the output signal is larger than the respective reference values, a controlling signal taking on logic "1"is obtained, if the output signal is smaller than the respective reference values, a controlling

15 signal taking on logic "0" is obtained, and thus determined the number "n" of controlling signals control the YC separating system.

         14. The three-line correlation detecting method of claim 13, the method further comprising:

20   (j) obtaining a first low-band component signal from the current line signal;

         (k) obtaining a second low-band component signal from a signal generated by delaying the current line signal by one horizontal scanning period or two horizontal scanning periods;

25   (l) obtaining a third low-band component signal from a signal generated by delaying the current line signal by two or four horizontal scanning periods;

(m) determining an absolute value of a result calculated by subtracting the second low-band component signal from the first low-band component signal;

(n) determining an value of a result calculated by subtracting the third low-band component signal from the second low-band component signal;

(o) determining a larger value as a maximum value by comparing the absolute value obtained in step (m) with the absolute value obtained in step (n);

(p) determining a smaller value as a minimum value by comparing the absolute value obtained in step (m) with the absolute value obtained in step (n);

(q) determining another output signal by selecting any one of the maximum value obtained in step (o) and the minimum value obtained in step (p) according to the result determined in step (p); and

(r) comparing the another output signal with the predetermined number "n" of another respective different reference values (where predetermined "n" takes on any one of natural numbers), if the another output signal is larger than the another respective reference values, another controlling signal taking on logic "1"is obtained, if the another output signal is smaller than the another respective reference values, another controlling signal taking on logic "0" is obtained; and

(s) controlling the YC separating system according to the number "n" of controlling signals and the number "n" of another controlling signals.

15. The three-line correlation detecting method of claim 12, the step (h) further comprising the steps of:

(h1) obtaining another first chrominance signal by filtering a current line signal;

(h2) obtaining another second chrominance signal by filtering a signal generated by delaying the current line signal by one horizontal scanning period or two horizontal scanning periods;

(h3) obtaining another third chrominance signal by filtering a signal

5   generated by delaying the current line signal by two or four horizontal scanning periods;

(h4) determining another first absolute value of a result calculated by adding the another first chrominance signal to the another second chrominance signal;

10   (h5) determining another second absolute value of a result calculated by adding the another second chrominance signal to the another third chrominance signal;

(h6) determining a smaller value as a minimum value by comparing the another first absolute value with the another second absolute value; and

15   (h7) comparing the minimum value obtained in step (h6) with another predetermined reference value, if the minimum value is smaller than the another predetermined reference value, outputting logic "1", if the minimum value is larger than the another predetermined reference value, outputting logic "0".

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